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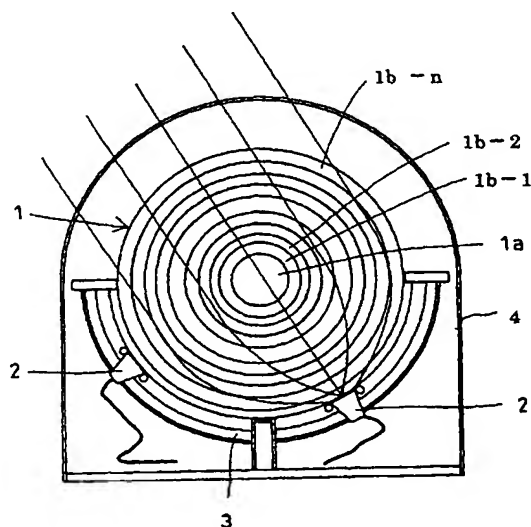
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添付公開書類:
— 国際調査報告書

[続葉有]

(54) Title: LUNEBERG LENS AND PROCESS FOR PRODUCING THE SAME

(54) 発明の名称: ルーネベルグレンズおよびその製造方法



(57) Abstract: A Luneberg lens of monolayer structure or multilayer structure composed of a combination of two or more layers of different dielectric constants, the Luneberg lens produced by adding a blowing agent to a resin mixture obtained by mixing a polyolefin resin and/or a derivative thereof with an inorganic filler of high dielectric constant at a volume ratio of 99 to 50 (resin) : 1 to 50 (filler), pre-expanding the obtained mixture into pre-expanded beads and molding the pre-expanded beads, wherein at least a dielectric expanded layer of 1.5 or higher dielectric constant is formed of pre-expanded beads having undergone classification and screening and wherein the value of $f(A)$ represented by the formula $f(A) = \sigma a / A_{ave}$, in which σa is a deviation of gas volume fraction (Ar) in the dielectric expanded layer while A_{ave} is an average of gas volume fractions (Ar) at portions of the dielectric expanded layer, satisfies the relationship $0.0005 \leq f(A) \leq 0.1$.

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WO 2004/086563 A1



- (48) この訂正版の公開日: 2004 年12 月29 日 2 文字コード及び他の略語については、定期発行される各PCTガゼットの巻頭に掲載されている「コードと略語のガイダンスノート」を参照。
- (15) 訂正情報:
PCTガゼット セクションIIの No.53/2004 (2004 年12 月29 日)を参照

(57) 要約:

ポリオレフィン系樹脂及び／若しくはその誘導体と高誘電率無機フィラーとを体積比で、樹脂 99～50：フィラー 1～50 の割合で混合した樹脂混合体に発泡剤を添加して予備発泡し、得られた予備発泡ビーズを成形して作られる単一の層構造、または比誘電率の異なる層を複数組み合わせた複層構造のルーネベルグレンズであって、少なくとも比誘電率 1.5 以上の誘電発泡体層が、分級選別した予備発泡ビーズで形成され、その誘電発泡体層中の気体体積分率 A_r の偏差 σ_a 、及び同層各部の気体体積分率 A_r の平均値 A_{ave} から、 $f(A) = \sigma_a / A_{ave}$ の式で表される $f(A)$ が、 $0.0005 \leq f(A) \leq 0.1$ である。

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/002656

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl⁷ H01Q15/08, B29C44/00, C08J9/228, B29K23:00, C08L23:00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl⁷ H01Q15/08, B29C67/22, C08J9/228, B29K23:00, C08L23:00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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Kokai Jitsuyo Shinan Koho 1971-2004 Toroku Jitsuyo Shinan Koho 1994-2004

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPI

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 2002-121310 A (Otsuka Chemical Co., Ltd.), 23 April, 2002 (23.04.02), Par. Nos. [0010] to [0044]; Figs. 1 to 4 & WO 2002/010266 A1 & EP 1310518 A1	1-5
A	JP 2001-316514 A (Achilles Corp.), 16 November, 2001 (16.11.01), Par. Nos. [0014] to [0034] (Family: none)	1-5
A	JP 2001-279014 A (Achilles Corp.), 10 October, 2001 (10.10.01), Par. Nos. [0011] to [0029] (Family: none)	1-5

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* Special categories of cited documents:

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"E" earlier application or patent but published on or after the international filing date

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Date of the actual completion of the international search
01 July, 2004 (01.07.04)Date of mailing of the international search report
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Japanese Patent Office

Authorized officer

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INTERNATIONAL SEARCH REPORT

International application No.

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 2001-250423 A (Achilles Corp.), 14 September, 2001 (14.09.01), Par. Nos. [0013] to [0035] (Family: none)	1-5
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A	JP 06-006126 A (Murata Mfg. Co., Ltd.), 14 January, 1994 (14.01.94), Par. Nos. [0007] to [0018]; Figs. 1 to 6 (Family: none)	1-5
A	JP 08-167811 A (Murata Mfg. Co., Ltd.), 25 June, 1996 (25.06.96), Par. Nos. [0007] to [0017] (Family: none)	1-5
A	JP 2002-197923 A (Murata Mfg. Co., Ltd.), 12 July, 2002 (12.07.02), Par. Nos. [0021] to [0047] & US 2002-0067317 A1 & FR 2815459 A1	1-5
A	JP 09-130137 A (Murata Mfg. Co., Ltd.), 16 May, 1997 (16.05.97), Par. Nos. [0005] to [0031] (Family: none)	1-5
A	JP 07-022834 A (Murata Mfg. Co., Ltd.), 24 January, 1995 (24.01.95), Par. Nos. [0007] to [0012] (Family: none)	1-5
A	JP 03-179805 A (Murata Mfg. Co., Ltd.), 05 August, 1991 (05.08.91), Page 2, lower right column, line 15 to page 6, upper left column, line 9; Fig. 1; tables 1 to 5 & US 5154973 A1	1-5
A	JP 05-334934 A (Murata Mfg. Co., Ltd.), 17 December, 1993 (17.12.93), Par. Nos. [0010] to [0016]; Figs. 1 to 4 (Family: none)	1-5